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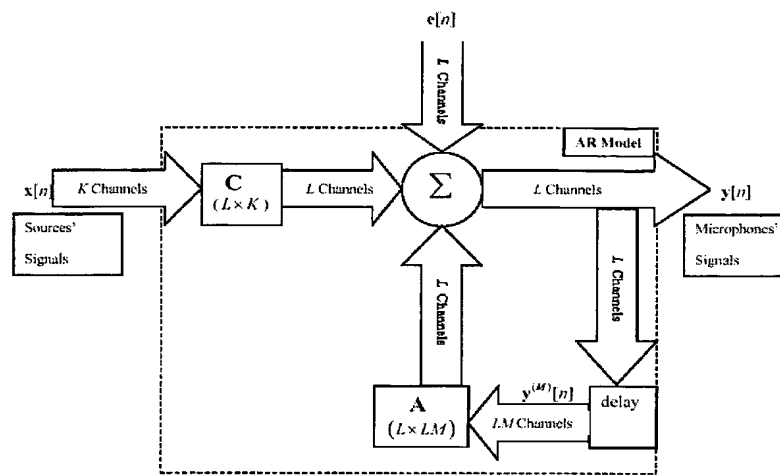
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(54) Title: APPARATUS AND METHOD FOR THE DETECTION OF ONE LUNG INTUBATION BY MONITORING SOUNDS



Block diagram of the MIMO AR model

(57) Abstract: A method and a device for the acoustic detection of a one lung intubation situation in a human subject are disclosed. According to some embodiments, the disclosed method includes computing an autoregressive moving average (ARMA) or an autoregressive function of electrical signals received from acoustic detectors placed at different locations on the body of the subject. Appropriate locations for acoustic detectors include the back region and the chest region. The disclosed method and apparatus are insensitive to uncanceled, random background noise with a loudness associated with an operating room or intensive care ward. The disclosed device is configurable so that the relative occurrence rate of missed detections or false negatives and false positive alarms can be modified. In one exemplary embodiment, the device is adapted such that at most 9% of identifications are false positive identifications, and at most 2% of identifications are false negative identifications.

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